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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/992,625	11/06/2001	Michael A. Barrese	BARRESE 1-1-1-2	5807

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EXAMINER
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JAMAL, ALEXANDER

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 07/13/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/992,625

Applicant(s)

BARRESE ET AL.

Examiner

Alexander Jamal

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) 2 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-13,18-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Amendment***

1. Based on the submitted amendment and arguments (5-15-2006), examiner notes that claim 2 has been cancelled and claim 1 has been amended.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims **1,3-6,8-13, 18-22**, are rejected under 35 U.S.C. 103(a) as being unpatentable over Weston et al. (5799069), and further in view of Johnson (4008427) and further in view of Lui (6624635).

As per **claims 1,18,19,3**, Weston discloses a power supply comprising telephone line interface (contained within blocks 56,62,64 of Fig. 3)), a power supply converter 64. However, Newton does not specify a gyrator or an inductor in the circuit, or a PWM (comprising an oscillator and inductor), or a combiner to supplement the line power with a host (battery) power.

Johnson discloses a description of a pulse power supply that produces a regulated output for a large range of input voltages (Col 1 lines 1-35). Johnson's circuit (Fig. 1) comprises inductor 40 coupled to pulse circuit 32 (driven by oscillator 10), and outputting to converter 20. It would have been obvious to one of ordinary skill in the art at the time of this application to implement Johnson's PWM switching circuit as the power converter for the advantage that it can operate over a wide range of input voltages (such as the wide range of voltages seen on telephone lines).

Lui discloses a power supply for a subscriber terminal that comprises a combiner to supplement the line power if the line power falls to a certain level (Col 3 lines 35-64). He further discloses that the combiner may comprise a diode. This is the same method of 'supplementing' that is disclosed in applicant's 'combiner' 200 in applicant's Fig. 1. It would have been obvious to one of ordinary skill in the art at the time of this application to implement a combiner to make use of a host power source (battery) for the advantage of increasing the reliability of the system.

Weston's telephone line interface isolates and extracts both an information and power signal (Fig. 3, blocks 56,64). Examiner takes official notice that it is well known in the art to use gyrators in subscriber terminals for the purpose of isolating and extracting data and power signals. This is discussed in applicant's specification page 5 lines 16-22.

As per **claims 21,22**, claims rejected for the same reasons as the rejection of claim 18. The device of the rejection would perform the method of claims 21, 22.

As per **claims 4,20**, Liu discloses the use of a diode but does not specify that it is a Schottky diode. It would have been obvious to one of ordinary skill in the art at the time of this application to make a design choice regarding the type of diode used. Since Liu's device is used to provide DC voltage levels for Modem circuitry the voltage levels would be small, as such, when using a diode to combine the supplemental battery power, it would be obvious to choose one with a low voltage drop so that the supply voltage levels do not drop to unusable levels before the diode is forward biased.

As per **claim 5**, Weston's telephone line interface isolates and extracts both an information and power signal (Fig. 3, blocks 56,64). Examiner takes official notice that it is well known in the art to use polarity guards when interfacing with the phone line for the advantage of protecting against tip/ring reversal (unknown polarity) from the telephone line. This is disclosed as prior art in applicant's specification page 5 lines 10-15.

As per **claim 6**, Johnson discloses a startup circuit comprising blocks 30,34 and switch 36 (Fig. 1).

As per **claim 8**, Johnson discloses switches 14 and 16 (Fig. 1) located between the inductor and after the gyrator (the gyrator would be located at filter 30 when combined with the invention of Weston).

As per **claims 9,10**, Weston in view of Johnson discloses a divider 12 coupled to the oscillator 10 (JOHNSON: Fig. 1), a transformer 20 with a center tap coupled to

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inductor 40, a dual switches (with clamping circuits) 14 and 16, and a rectifier circuit coupled to the primary winding of the transformer (JOHNSON: Col 3 lines 3-22)

As per **claims 11,12**, the electrical device is a modem (Weston) with a rechargeable battery (Johnson, Fig. 1, capacitors 22 and 24).

As per **claim 13**, Johnson discloses that the oscillator frequency used to drive the pulse supply to pulse the inductor with current operates at 15KHz and 30KHz (approximately 500KHz).

4. **Claim 7** rejected under 35 U.S.C. 103(a) as being unpatentable over Weston et al. (5799069) and Johnson (4008427) and Lui (6624635) as applied to claim 1, and further in view of Wakamatsu (5995381).

As per **claims 7**, Weston and Johnson disclose applicant's claim 1, but do not disclose an output shunt regulator on the PWM circuit.

Wakamatsu teaches that in PWM circuits, an output shunt regulator may be used to stabilize the output voltage with high precision (Col 8 lines 5-15). It would have been obvious to one of ordinary skill in the art at the time of this application to implement an output shunt regulator for the advantage of being able to stabilize the output voltage with high precision.

### ***Response to Arguments***

1. Applicant's arguments filed 5-15-2006 have been fully considered but they are not persuasive.

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As per applicant's argument that Liu does not teach a combiner circuitry (remarks page 7). Examiner notes the diode configuration disclosed as the multiplexer will function in the same manner as the applicant's disclosed 'combiner' 200 in applicant's Fig. 1. Both will use diodes to allow the battery (host power) to supplement the line power.

As per applicant's argument that there is no motivation to apply the teachings of Liu, examiner disagrees. Liu's teaching fills an inherent need to increase the reliability of the system by providing an additional source of power in the event that the main source of power fails. Examiner contends that one skilled in the art would easily recognize the need to apply a backup battery to a power source. This concept is further discussed in Liu Col 1 lines 10-35).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

AJ  
June 28, 2006

  
CURTIS KUNTZ  
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